

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: application of: :  
Jason Zapf : Group Art Unit: 1614  
Serial No. 10/695,280 : Examiner: Frederick F. Krass  
Filed: October 28, 2003 : Confirmation No. 3956  
For: Silica-coated Boehmite Composites :  
Suitable for Dentifrices :  
: X

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**AMENDMENT**

This Amendment is being filed in response to the Final Office Action dated July 27, 2006 in the above-identified application. This response is being filed on September 6, 2006, within two months of the mailing date of the final office action.

The amendments herein after-final are appropriate under M.P.E.P. §714.02 because they are believed to place this application in condition for allowance.

**Amendments to the Specification** There are no such amendments in this paper.

**Amendments to the Claims** are reflected in the listing of claims, which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 6 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Presently Amended) A composite material comprising a boehmite substrate coated with a precipitated silica, the composite having an Einlechner abrasion value of about 15 mg lost/100,000 revolutions to about 30 mg lost/100,000 revolutions, and a BET specific surface area of from 1 m<sup>2</sup>/g to 50 m<sup>2</sup>/g, such that the composite material has a %silica coating parameter value of 5% to 50%, based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and precipitated silica.
2. (Original) The composite material according to claim 1, wherein the composite material has a median particle size of about 1μm to about 20μm.
3. (Original) The composite material according to claim 1, wherein the composite material has a median particle size of 1μm to 10μm.
4. (Cancelled)
5. (Original) The composite material according to claim 1, wherein the boehmite substrate has a median diameter of 1 μm to 20 μm.
6. (Original) The composite material according to claim 1, wherein the boehmite substrate has a median diameter of 1μm to 5μm.

7. (Original) The composite material according to claim 1, wherein the boehmite substrate has an Einlechner abrasion value of about 10 mg lost/100,000 revolutions to about 65 mg lost/100,000 revolutions.

8. (Original) The composite material according to claim 1, wherein the composite has a BET surface area of 1 m<sup>2</sup>/g to 10 m<sup>2</sup>/g.

9. (Presently Amended) The composite material according to claim 1, wherein the %silica coating value is between 15% to 40%, based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and silica.

10. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 40%.

11. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 55%.

12. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 75%.

13. (Original) The composite material according to claim 1, wherein the composite material has a fluoride compatibility value of greater than about 40%.

14. (Original) The composite material according to claim 1, wherein the composite material has a fluoride compatibility value of greater than about 80%.

15. (Original) The composite material according to claim 1, wherein the composite material has a CPC compatibility value of greater than about 40% and a fluoride compatibility of greater than about 40%.

16. (Original) The composite material according to claim 1, wherein the composite material has a CPC compatibility value of greater than about 70% and a fluoride

compatibility value of greater than about 80%.

17. (Presently Amended) A dentifrice containing a composite material comprising a boehmite substrate coated with a precipitated silica, the composite having a BET specific surface area of from 1 m<sup>2</sup>/g to 50 m<sup>2</sup>/g, such that the composite material has a %silica coating parameter value of 5% to 50%, based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and precipitated silica, and wherein the dentifrice PCR/RDA ratio is greater than 1.2.

18. (Previously Amended) The dentifrice according to claim 17, comprising about 10% to about 35% by weight of the composite particles based on the weight of the dentifrice.

19. (Cancelled)

20. (Original) The dentifrice according to claim 17, wherein the dentifrice PCR/RDA ratio is about 1.2 to about 1.5.

21. (Original) The dentifrice according to claim 17, wherein the dentifrice RDA value is greater than 60.

22. (Original) The dentifrice according to claim 17, further comprising one or more ingredients selected from the group consisting of abrasives, other thickeners, humectants, antibacterial agents, fluorides, flavors, sweeteners, and surfactants.

23. (Cancelled)

24. (Cancelled)

25. (Presently Amended) A method of forming a composite material that includes forming boehmite particles by adding aluminum trihydrate to an aqueous solution and then heating the aluminum trihydrate-containing aqueous solution, under a pressure of about 190 psi to 250 psi to form the boehmite particles, while simultaneously adding an acid to the aqueous solution containing alkali metal silicate, thereby depositing silica, which has a BET specific surface area of from 1 m<sup>2</sup>/g to 50 m<sup>2</sup>/g, onto the boehmite particles to form a silica-treated boehmite composite material; the composite material having a %silica coating parameter value of 5% to 50%, based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and precipitated silica.

**REMARKS**

Claims 1-3, 5-18, 20-22, and 25 are pending in the present application.

By the present amendment, claims 1, 9, 17, and 25 have been amended to specify that the %silica coating parameter value of 5% to 50% is based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and precipitated silica added together. Support for this amendment may be found in the Specification at paragraphs 0071 – 0072.

**REJECTIONS UNDER 35 U.S.C. §112, 2<sup>ND</sup> PARAGRAPH**

The Examiner has rejected the pending claims as being indefinite.

In particular the Examiner has identified “% silica coating parameter value” in claims 1, 9, 17, 23, and 25 as being unclear because the basis for its determination is not set forth.

By the present amendment, Applicants have amended claims 1, 9, 17, and 25 (claim 23 having been previously canceled) to specify that “the %silica coating parameter value of 5% to 50% is based on the ratio of the weight of the precipitated silica to the total weight of the boehmite and precipitated silica.” As noted above, support for this amendment may be found in the specification at paragraphs 0071 – 0072.

The Examiner has noted that the specification, “outlines a method for calculating the % silica ‘coating’, instead of a ‘% silica coating parameter value’. It is not clear if the former and latter are synonymous”.

Applicants maintain that the “% silica coating” is essentially the same as the “% silica coating parameter value”. When writing the present claims, Applicants appended “parameter value” to the end of “% silica coating” to indicate that, as recited in the claims, the “% silica coating” was a parameter inherently present in and descriptive of the silica material, being set forth to describe the silica in greater detail. *See M.P.E.P. §2173.05(e).*

Therefore, based on the above remarks, Applicant maintains that the present claims are not indefinite, and reconsideration and withdrawal of the rejections of these claims are respectfully requested.

**Allowable Subject Matter**

At page 3 of the Office Action mailed July 27, 2006, the Examiner indicated the claims 1-3, 5-18, 20-22, and 25 were allowable if rewritten to overcome the rejection based on 35 U.S.C. §112, 2<sup>ND</sup> Paragraph. By the present amendment, Applicant believes that it has overcome the 35 U.S.C. §112, 2<sup>ND</sup> Paragraph rejections and the present claims are now allowable.

Appl. No. 10/695,280  
Amendment transmitted on September 6, 2006  
Reply to Office action of July 27, 2006

Att'y Docket No. 00-206  
Confirmation No. 3956  
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**CONCLUSION**

Reconsideration and withdrawal of the rejection of the claims in view of the remarks provided herein and allowance of the claims being prosecuted are respectfully requested.

Respectfully submitted,

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